



CHAPTER 6

Working with Performance Queries

To troubleshoot system performance problems, you add a counter (query) that is associated with the perfmon object to the Performance monitor, which displays a chart for the counter.

This chapter contains information on the following topics:

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- [Using Performance Queries to Add a Counter, page 6-3](#)
- [Removing a Counter from the Performance Monitoring Pane, page 6-4](#)
- [Adding a Counter Instance, page 6-5](#)
- [Configuring Alert Notification for a Counter, page 6-5](#)
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Working with Categories

Categories allow you to organize objects in RTMT, such as performance monitoring counters and devices. For example, the default category under performance monitoring, RTMT allows you to monitor six performance monitoring counters in graph format. If you want to monitor more counters, you can configure a new category and display the data in table format.

If you perform various searches for devices, for example, for phones, gateways, and so on, you can create a category for each search and save the results in the category.

Adding a Category

To add a category, perform the following procedure:

Procedure

Step 1 Go to applicable window for your configuration:

Cisco Unified Communications Manager	Display Performance Monitoring under the system tab or Devices/CTIs in the Search window under the Communications Manager tab.
Cisco Unified Communications Manager Business Edition	Display Performance Monitoring under the system tab or Devices/CTIs in the Search window under the Communications Manager tab.
Connection	Choose System > Performance > Open Performance Monitoring .

Step 2 Choose **Edit > Add New Category**.

Step 3 Enter the name of the category; click **OK**.

The category tab displays at the bottom of the window.

Additional Information

See the [“Where to Find More Information”](#) section on page 6-11.

Renaming a Category

To rename a category, perform the following procedure:

Procedure

Step 1 Perform one of the following tasks:

- Right-click the category tab that you want to rename and choose **Rename Category**.
- Click the category tab that you want to rename and choose **Edit > Rename Category**.

Step 2 Enter the new name and click **OK**.

The renamed category displays at the bottom of the window.

Additional Information

See the [“Where to Find More Information”](#) section on page 6-11.

Deleting a Category

To delete a category, perform one of the following tasks:

- Right-click the category tab that you want to delete and choose **Remove Category**.
- Click the category tab that you want to delete and choose **Edit > Remove Category**.

Additional Information

See the [“Where to Find More Information”](#) section on page 6-11.

Using Performance Queries to Add a Counter

You can use queries to select and display perfmon counters. You can organize the perfmon counters to display a set of feature-based counters and save it in a category. See [“Working with Categories”](#) section on page 6-1 for more information. After you save your RTMT profile, you can quickly access the counters in which you are interested.

RTMT displays perfmon counters in chart or table format. The chart format displays the perfmon counter information by using line charts. For each category tab that you create, you can display up to six charts in the RTMT Perfmon Monitoring pane with up to three counters in one chart. After you create a category, you cannot change the display from a chart format to a table format, or vice versa.



Tip

You can display up to three counters in one chart in the RTMT Perfmon Monitoring pane. To add another counter in a chart, click the counter and drag it to the RTMT Perfmon Monitoring pane. Repeat again to add up to three counters.

By default, RTMT displays perfmon counters in a chart format. You can also choose to display the perfmon counters in a table format. To display the perfmon counters in table format, you need to check the **Present Data in Table View** check box when you create a new category.

Before you add counters, see the [“Category Tabs”](#) section on page 3-3. To zoom a counter, see [“Zoom Feature”](#) section on page 3-3.

Procedure

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- Step 1** Perform one of the following tasks:
- On the Quick Launch Channel
 - Click **System**.
 - In the tree hierarchy, double-click **Performance**.
 - Click the **Performance** icon.
 - Choose **System > Performance > Open Performance Monitoring**.
- Step 2** Click the name of the server where you want to add a counter to monitor.
The tree hierarchy expands and displays all the perfmon objects.
- Step 3** To monitor a counter in table format, continue to [Step 4](#). To monitor a counter in chart format, skip to [Step 9](#).
- Step 4** Choose **Edit > New Category**.

- Step 5** In the Enter Name field, enter a name for the tab.
- Step 6** To display the perfmon counters in table format, check the **Present Data in Table View** check box.
- Step 7** Click **OK**.
- A new tab with the name that you entered displays at the bottom of the pane.
- Step 8** Perform one of the following tasks to select one or more counters with one or more instances for monitoring in table format (skip the remaining step in this procedure):
- Double click a single counter and select a single instance from the pop-up window; then, click **Add**.
 - Double click a single counter and select multiple instances from the pop-up window; then, click **Add**.
 - Drag a single counter to the monitoring window and select a single instance from the pop-up window; then click **Add**.
 - Drag a single counter to the monitoring window and select multiple instances from the pop-up window; then, click **Add**.
 - Select multiple counters and drag them onto the monitoring window. Select a single instance from the pop-up window; then, click **Add**.
 - Select multiple counters and drag them onto the monitoring window. Select multiple instances from the pop-up window; then, click **Add**.

**Tip**

To display the counter in chart format after you display it in table format, right-click the category tab and choose **Remove Category**. The counter displays in chart format.

- Step 9** To monitor a counter in chart format, perform the following tasks:
- Click the file icon next to the object name that lists the counters that you want to monitor.
A list of counters displays.
 - To display the counter information, either right-click the counter and click **Counter Monitoring**, double-click the counter, or drag and drop the counter into the RTMT Perfmon Monitoring pane.

The counter chart displays in the RTMT Perfmon Monitoring pane.

Additional Information

See the [Related Topics, page 6-11](#).

Removing a Counter from the Performance Monitoring Pane

You can remove a counter chart (table entry) with the Remove Chart/TableEntry menu item in the Perfmon menu in the menu bar.

You can remove counters from the RTMT Perfmon Monitoring pane when you no longer need them. This section describes how to remove a counter from the pane.

Perform one of the following tasks:

- Right-click the counter that you want to remove and choose **Remove**.
- Click the counter that you want to remove and choose **Perfmon > Remove Chart/Table Entry**.

The counter no longer displays in the RTMT Perfmon Monitoring pane.

Additional Information

See the [Related Topics, page 6-11](#).

Adding a Counter Instance

To add a counter instance, perform the following procedure:

Procedure

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- Step 1** Display the performance monitoring counter, as described in the “[Using RTMT for Performance Monitoring](#)” section on page 3-1.
- Step 2** Perform one of the following tasks:
- Double-click the performance monitoring counter in the performance monitoring tree hierarchy.
 - Click the performance monitoring counter in the performance monitoring tree hierarchy and choose **System > Performance > Counter Instances**.
 - Right-click the performance monitoring counter in the performance monitoring tree hierarchy and choose **Counter Instances**.
- Step 3** In the Select Instance window, click the instance; then, click **Add**.
- The counter displays.
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Additional Information

See the [Related Topics, page 6-11](#).

Configuring Alert Notification for a Counter

The following procedure describes how to configure alert notification for a counter.

**Tip**

To remove the alert for the counter, right-click the counter and choose Remove Alert. The option appears gray after you remove the alert.

Procedure

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- Step 1** Display the performance counter, as described in the “[Using RTMT for Performance Monitoring](#)” section on page 3-1.
- Step 2** From the counter chart or table, right-click the counter for which you want to configure the alert notification, and choose **Set Alert/Properties**.
- Step 3** Check the **Enable Alert** check box.
- Step 4** In the Severity drop-down list box, choose the severity level at which you want to be notified.
- Step 5** In the Description pane, enter a description of the alert.

Step 6 Click **Next**.

Step 7 Use [Table 6-1](#) to configure the settings in the Threshold, Value Calculated As, Duration, Frequency, and Schedule panes. After you enter the settings in the window, click **Next** to proceed to the next panes.

Table 6-1 Counter Alert Configuration Parameters

Setting	Description
Threshold Pane	
Trigger alert when following conditions met (Over, Under)	Check the check box and enter the value that applies. - Over—Check this check box to configure a maximum threshold that must be met before an alert notification is activated. In the Over value field, enter a value. For example, enter a value that equals the number of calls in progress. - Under—Check this check box to configure a minimum threshold that must be met before an alert notification is activated. In the Under value field, enter a value. For example, enter a value that equals the number of calls in progress. Tip Use these check boxes in conjunction with the Frequency and Schedule configuration parameters.
Value Calculated As Pane	
Absolute, Delta, Delta Percentage	Click the radio button that applies. - Absolute—Choose Absolute to display the data at its current status. These counter values are cumulative. - Delta—Choose Delta to display the difference between the current counter value and the previous counter value. - Delta Percentage—Choose Delta Percentage to display the counter performance changes in percentage.
Duration Pane	
Trigger alert only when value constantly...; Trigger alert immediately	- Trigger alert only when value constantly...—If you want the alert notification only when the value is constantly below or over threshold for a desired number of seconds, click this radio button and enter seconds after which you want the alert to be sent. - Trigger alert immediately—If you want the alert notification to be sent immediately, click this radio button.

Table 6-1 Counter Alert Configuration Parameters (continued)

Setting	Description
Frequency Pane	
Trigger alert on every poll; trigger up to...	Click the radio button that applies. - Trigger alert on every poll—If you want the alert notification to activate on every poll when the threshold is met, click this radio button. For example, if the calls in progress continue to go over or under the threshold, the system does not send another alert notification. When the threshold is normal (between 50 and 100 calls in progress), the system deactivates the alert notification; however, if the threshold goes over or under the threshold value again, the system reactivates alert notification. - Trigger up to...—If you want the alert notification to activate at certain intervals, click this radio button and enter the number of alerts that you want sent and the number of minutes within which you want them sent.
Schedule Pane	
24-hours daily; start/stop	Click the radio button that applies: 24-hours daily—If you want the alert to be triggered 24 hours a day, click this radio button. - Start/Stop—If you want the alert notification activated within a specific time frame, click the radio button and enter a start time and a stop time. If the check box is checked, enter the start and stop times of the daily task. For example, you can configure the counter to be checked every day from 9:00 am to 5:00 pm or from 9:00 pm to 9:00 am.

Step 8 If you want the system to send an e-mail message for the alert, check the **Enable Email** check box.

Step 9 If you want to trigger an alert action that is already configured, choose the alert action that you want from the Trigger Alert Action drop-down list box.

Step 10 If you want to configure a new alert action for the alert, click **Configure**.



Note Whenever the specified alert is triggered, the system sends the alert action.

The Alert Action dialog box displays.

Step 11 To add a new alert action, click **Add**.

The Action Configuration dialog box displays.

Step 12 In the Name field, enter a name for the alert action.

Step 13 In the Description field, enter a description for the alert action.

Step 14 To add a new e-mail recipient for the alert action, click **Add**.

The Input dialog box displays.

Step 15 Enter either the e-mail or e-page address of the recipient that you want to receive the alert action notification.

Step 16 Click **OK**.

The recipient address displays in the Recipient list. The Enable check box gets checked.



Tip To disable the recipient address, uncheck the Enable check box. To delete a recipient address from the Recipient list, highlight the address and click **Delete**.

Step 17 Click **OK**.

Step 18 The alert action that you added displays in Action List.



Tip To delete an alert action from the action list, highlight the alert action and click **Delete**. You can also edit an existing alert action by clicking **Edit**.

Step 19 Click **Close**.

Step 20 In the User-defined email text box, enter the text that you want to display in the e-mail message.

Step 21 Click **Activate**.

Additional Information

See the [Related Topics, page 6-11](#).

Displaying a Counter Description

Use one of two methods to obtain a description of the counter:

Procedure

Step 1 Perform one of the following tasks:

- In the Perfmon tree hierarchy, right-click the counter for which you want property information and choose **Counter Description**.
- In the RTMT Performance Monitoring pane, click the counter and choose **System > Performance > Counter Description** from the menu bar.



Tip To display the counter description and to configure data-sampling parameters, see the [“Configuring a Data Sample” section on page 6-9](#).

The Counter Property window displays the description of the counter. The description includes the host address, the object to which the counter belongs, the counter name, and a brief overview of what the counter does.

Step 2 To close the Counter Property window, click **OK**.

Additional Information

See the [Related Topics](#), page 6-11.

Configuring a Data Sample

The Counter Property window contains the option to configure data samples for a counter. The perfmon counters that display in the RTMT Perfmon Monitoring pane contain green dots that represent samples of data over time. You can configure the number of data samples to collect and the number of data points to show in the chart. After the data sample is configured, view the information by using the View All Data/View Current Data menu option. See the [“Viewing Counter Data”](#) section on page 6-10.

This section describes how to configure the number of data samples to collect for a counter.

Procedure

Step 1 Display the counter, as described in the [“Using RTMT for Performance Monitoring”](#) section on page 3-1.

Step 2 Perform one of the following tasks:

- Right-click the counter for which you want data sample information and choose **Monitoring Properties** if you are using chart format and **Properties** if you are using table format.
- Click the counter for which you want data sample information and choose **System > Performance > Monitoring Properties**.

The Counter Property window displays the description of the counter, as well as the tab for configuring data samples. The description includes the host address, the object to which the counter belongs, the counter name, and a brief overview of what the counter does.

Step 3 To configure the number of data samples for the counter, click the **Data Sample** tab.

Step 4 From the No. of data samples drop-down list box, choose the number of samples (between 100 and 1000). The default specifies 100.

Step 5 From the No. of data points shown on chart drop-down list box, choose the number of data points to display on the chart (between 10 and 50). The default specifies 20.

Step 6 Click one parameter, as described in [Table 6-2](#).

Table 6-2 Data Sample Parameters

Parameter	Description
Absolute	Because some counter values are accumulative, choose Absolute to display the data at its current status.
Delta	Choose Delta to display the difference between the current counter value and the previous counter value.
Delta Percentage	Choose Delta Percentage to display the counter performance changes in percentage.

Step 7 To close the Counter Property window and return to the RTMT Perfmon Monitoring pane, click the **OK** button.

Additional Information

See the [Related Topics](#), page 6-11.

Viewing Counter Data

Perform the following procedure to view the data that is collected for a performance counter.

Procedure

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- Step 1** In the RTMT Perfmon Monitoring pane, right-click the counter chart for the counter for which you want to view data samples and choose **View All Data**.
- The counter chart displays all data that has been sampled. The green dots display close together, almost forming a solid line.
- Step 2** Right-click the counter that currently displays and choose **View Current**.
- The counter chart displays the last configured data samples that were collected. See the “[Configuring a Data Sample](#)” section on page 6-9 procedure for configuring data samples.
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Additional Information

See the [Related Topics](#), page 6-11.

Local Logging of Perfmon Counters Data

RTMT allows you to choose different perfmon counters to log locally. You can then view the data from the perfmon CSV log by using the performance log viewer. See “[Viewing Perfmon Log Files](#)” section on page 7-1.

Starting the Counter Logs

To start logging perfmon counter data into a CSV log file, perform the following procedure:

Procedure

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- Step 1** Display the performance monitoring counters, as described in the “[Using RTMT for Performance Monitoring](#)” section on page 3-1.
- Step 2** If you are displaying perfmon counters in the chart format, right-click the graph for which you want data sample information and choose **Start Counter(s) Logging**. If you want to log all counters in a screen (both chart and table view format), you can right-click the category name tab at the bottom of the window and choose **Start Counter(s) Logging**.
- The Counter Logging Configuration dialog box displays.

Step 3 In the Logger File Name field, enter a file name and click **OK**.

RTMT saves the CSV log files in the log folder in the .jrtmt directory under the user home directory. For example, in Windows, the path specifies D:\Documents and Settings\userA\.jrtmt\log, or in Linux, the path specifies /users/home/.jrtmt/log.

To limit the number and size of the files, configure the maximum file size and maximum number of files parameter in the trace output setting for the specific service in the Trace Configuration window of Cisco Unified Serviceability. See *Cisco Unified Serviceability Administration Guide*.

Stopping the Counter Logs

To stop logging perfmon counter data, perform the following procedure:

Procedure

- Step 1** Display the performance monitoring counters, as described in the [“Using RTMT for Performance Monitoring” section on page 3-1](#).
- Step 2** If you are displaying perfmon counters in the chart format, right-click the graph for which counter logging is started and choose **Stop Counter(s) Logging**. If you want to stop logging of all counters in a screen (both chart and table view format), you can right-click the category name tab at the bottom of the window and choose **Stop Counter(s) Logging**.
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Additional Information

See the [Related Topics](#), page 6-11.

Where to Find More Information

Related Topics

- [Working with Categories](#), page 6-1
- [Using Performance Queries to Add a Counter](#), page 6-3
- [Removing a Counter from the Performance Monitoring Pane](#), page 6-4
- [Adding a Counter Instance](#), page 6-5
- [Configuring Alert Notification for a Counter](#), page 6-5
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- [Local Logging of Perfmon Counters Data](#), page 6-10
- [Viewing Perfmon Log Files](#), page 7-1
- [Understanding Performance Monitoring](#), page 3-1
- [System Performance Objects and Counters](#), page A-1

- [Performance Objects and Counters for Cisco Unified Communications Manager, page B-1](#)
- [Cisco Unity Connection Performance Objects and Counters, page C-1](#)